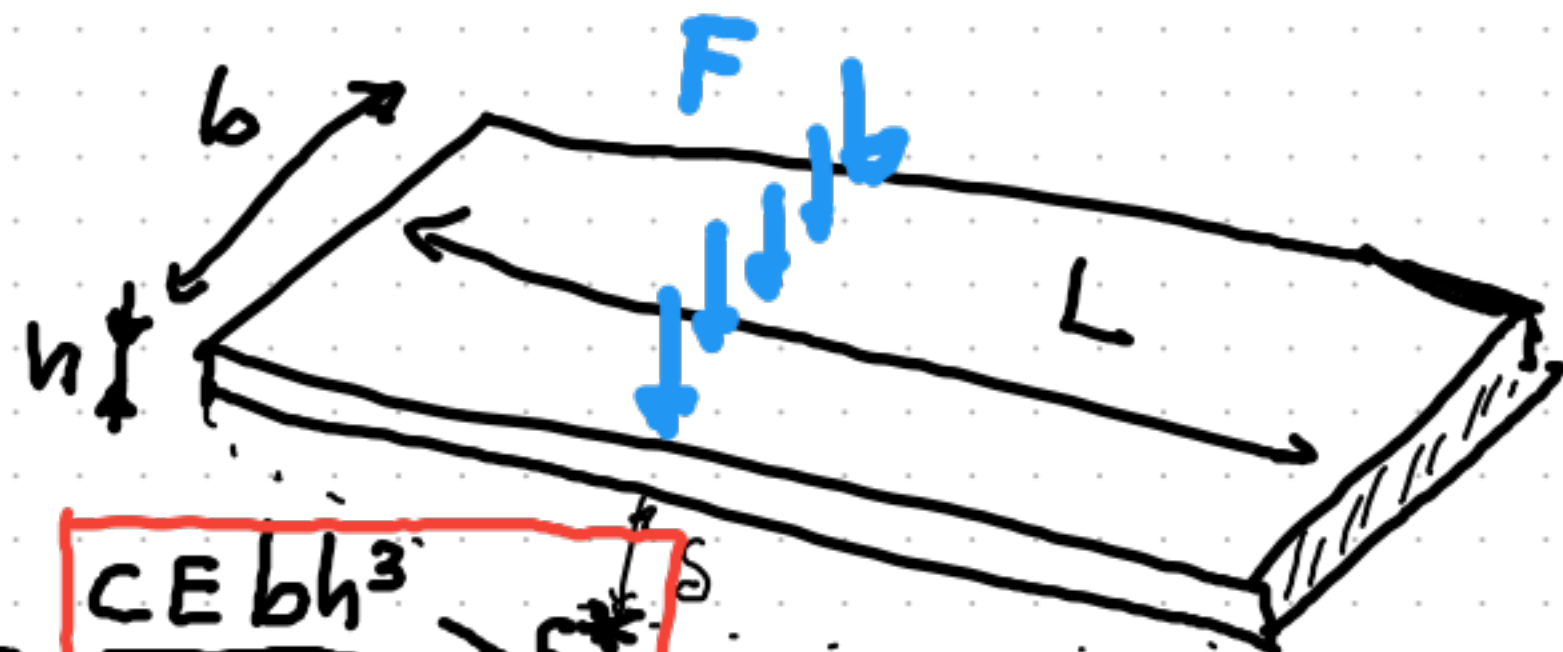


LIGHT, STIFF TABLE



$$I = \frac{bh^3}{12}$$

F: table (flexure)

C: L, b

$$S_b > S_b^*$$

$$S_b = \frac{CEI}{L^3} = \frac{CEbh^3}{12L^3} > S_b^*$$

F.V.: $h \rightarrow h > \left(\frac{12L^3 S_b^*}{cbE} \right)^{\frac{1}{3}}$

$$h < h^*$$

O: min mass

$$m = bhL\rho$$

$$\Rightarrow m > \left(\frac{12 S_b^*}{c} \right)^{\frac{1}{3}} b^{\frac{2}{3}} L^2 \frac{\rho}{E^{\frac{1}{3}}}$$

$$M_3 = \frac{\rho}{E^{\frac{1}{3}}}$$

LIGHT, STIFF

TIE-ROD

$$\rightarrow M_1 = \rho/E$$

$$\log M_1 = \log \rho - \log E$$

BEAM

$$\rightarrow M_2 = \rho/E^{\frac{1}{2}}$$



TABLE

$$\rightarrow M_3 = \rho/E^{\frac{1}{3}}$$

$$\log E = \log \rho - \log M$$

$$\log E = 2 \log \rho - 2 \log M$$

$$\log E = 3 \log \rho - 3 \log M$$